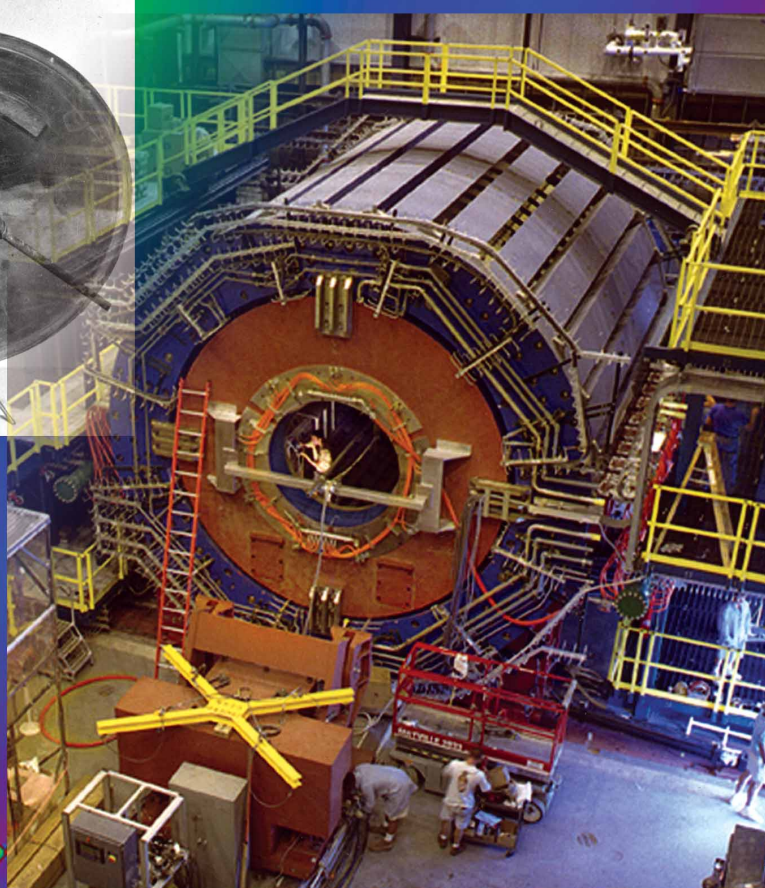


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In-situ X-ray Absorption Spectroscopy on Mn-Oxide based Lithium Battery Electrodes.

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In-situ X-ray Absorption Spectroscopy was performed to investigate structural changes in Lithium Manganese Oxide, a lithium battery electrode material during electrochemical lithiation. Various spectroscopy techniques, such as XANES and EXAFS, were employed to monitor the changes in the electronic and crystallographic structure during the deep discharge process. XANES was used to quantitatively study the chemical shift of the spectra and to determine the average manganese oxidation state before and after discharge. EXAFS data provided such information as the interatomic distances and coordination numbers. Analysis of the EXAFS spectra showed the occurrence of a crystal phase transition from a cubic lattice to one of lower symmetry.

<http://www.osti.gov/scitech/biblio/1050990>

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